




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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,304	12/31/2003	Stanley S. Toncich	UD1 00001	1675
7590	12/13/2004		EXAMINER TAKAOKA, DEAN O	
Kyocera Wireless Corp. P.O. Box 928289 San Diego, CA 92129-8289			ART UNIT 2817	PAPER NUMBER

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/750,304	Applicant(s) TONCICH, STANLEY S.	
	Examiner Dean O Takaoka	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-17, 19, 20 and 22-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-40 is/are allowed.
- 6) ☒ Claim(s) 14-17, 19, 20 and 41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "temperature range" with "Q" with "frequency range" in claims 22 – 27 and "temperature range" with "Q" with "capacitance" all combined in claims 28 – 31 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 14, 15, 17, 19, 20 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhu et al. (US Patent No. 6,525,630).

Claim 14:

Zhu et al. (Fig. 4) shows a tunable thin film ferroelectric device (col. 1, line 53 to col. 2, line 4 and col. 3, lines 6-11) fabricated using a method that isolates loss due to the ferroelectric film (col. 3, line 61 to col. 4, line 2; where selection of ferroelectric materials and/or thicknesses of films that provide low loss tangents, thus providing a method for isolating loss).

Claim 15:

Where the device comprises a ferroelectric capacitor and resonator (col. 4, lines 31-38 teaching dielectric (e.g. ferroelectric) varactors and resonators).

Claim 17:

Where the device comprises a microstrip resonator having an integrated gap capacitor (where the device comprises a ferroelectric capacitor having a gap 34 illustrated by the prior art in Figs. 1 and 2; a microstrip resonator 58 with varactors 74 shown in Fig. 4; where the combined resonator and ferroelectric capacitor are identical

or nearly identical to that shown in Fig. 10b by the Applicant, where the gap is defined by the Examiner as spaced electrodes 18 and 20 shown in Fig. 2 and filled by sealant 34).

Claim 19:

A narrowband resonant circuit (where the limits of a narrowband is not defined by the claim, where Zhu et al. shows a bandpass filter in Figs. 6 – 9, thus where the bandpass filter of Zhu is a narrowband filter) comprising a microstrip resonator having an integrated gap capacitor (discussed in the reasons for rejection of claim 17 above) where the resonator comprises thin metal strips separated by a gap (e.g. gap of the capacitor and similar or nearly identical to the structure shown in Fig. 10b by the Applicant) comprises a ferroelectric film (16) deposited proximate (e.g. below) the gap between strips (18, 20).

Claim 20:

Where the gap capacitor has a Q greater than about 100 (col. 4, lines 20-25; where Zhu teaches Q of 1000 to 200 at 1 GHz).

Claim 41:

A first element having an inductance (58); a second element having a capacitance (72), the first and second elements being electrically coupled in a filter configuration to produce a characteristic frequency (Fig. 4 and Figs. 6-9); a ferroelectric material (14 – Fig. 2) positioned near either the first element or the second element; and a control line coupled to the ferroelectric material for varying a dielectric constant of the ferroelectric material and the characteristic frequency (col. 1, lines 15-35); where a Q of

the tunable ferroelectric filter is greater than 80 (col. 4, lines 20-30; where the term "about" is broad with the limits not defined by the claim, thus met by Zhu).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al. in view of Sengupta et al. (US Patent No. 6,727,535).

Claim 16:

Zhu et al. shows a tunable device, discussed in the reasons for rejection of claim 1 above, comprising planar microstrips and a ferroelectric varactor forming a second order combine bandpass filter (col. 4, lines 50-55), but does not show where the varactor is a planar interdigital capacitor.

Sengupta et al. shows a ferroelectric varactor comprising a planar interdigital capacitor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the ferroelectric varactor disclosed by Zhu et al. with the planar interdigital capacitor disclosed by Sengupta et al. Such a modification would have been a mere substitution of well-known art recognized equivalent ferroelectric varactors, where Sengupta et al. teaches the interdigital arrangement of electrodes provides an increase of capacitance (col. 4, lines 7-10) thus

providing additional tuning capability (e.g. by the well-known equation for resonance $f = 1/2\pi\sqrt{LC}$) and where both Zhu et al. in view of Sengupta et al. are of the same Assignee further suggesting the obviousness of the substitution.

Allowable Subject Matter

Claims 22 – 40 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O Takaoka whose telephone number is (571) 272-1772. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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